



ULTRA-PORTABLE NOTEBOOKS

Today's ultra-portables pack more power than ever before into small, lightweight cases – and prices are no longer up in the clouds. We take you up, up and away with six of the very best

IN THIS REVIEW

Elonex Prowire 121B
Hi-Grade Notino C2200
HP Compaq nc4200
MSI S270
MV Mobeus MV010652
Toshiba Portégé M300

The variety of notebook computers available is astonishing. They come in all manner of sizes, from huge desktop replacements to portable models that allow you to work on the move. If you need your PC to travel with you, you should look for an ultra-portable notebook. They weigh less than 2kg and eschew large screens and powerful 3D graphics in favour of tiny, sturdy cases and hours of battery life.

This month we asked six manufacturers to supply us with a notebook that weighs less than 2kg and costs £1,200 or less. The result was a very varied selection of chassis styles, screen types and features, with portables ranging from business computers to multimedia notebooks perfect for home use. Whatever your needs when working on the move, we'll find a notebook to match that won't break your back – or your bank balance.



CHOOSING AN... ULTRA-PORTABLE NOTEBOOK

Before you invest in one of these stylish ultra-portables, make sure you're getting the right system for your needs. Our buying guide makes light work of those important considerations

Choosing an ultra-portable notebook doesn't necessarily mean compromising on performance or features. Today's mobile processors provide powerful 2D performance and good battery life, and many ultra-portables come with high-specification optical drives and extras such as Bluetooth.

Nonetheless, all ultra-portable notebooks are not the same. When deciding which to buy, consider the features that will be the most useful for you.

POWER SAVER

Five of the six notebooks in the group use Intel's Pentium M processors. These mobile processors use less power than desktop chips, and so produce less heat and prolong the notebook's battery life.

Toshiba has used a special ultra-low voltage (ULV) version to save battery life further at the expense of raw power. The MSI notebook uses AMD's new Turion 64 processor. Like a Pentium M, this is a mobile processor designed to maximise battery life. All the notebooks in the group are fast enough for the vast majority of 2D applications, but none is capable of playing modern 3D games.

THREE IS THE MAGIC NUMBER

The main reason to own an ultra-portable notebook is to use it away from your desk, so long battery life is more important here than with larger notebooks. We consider three hours of battery life to be the minimum for working on the move, and the Toshiba, MV and HP notebooks manage this with their standard batteries.

The Elonex comes with two batteries as standard; when fitted with the three-cell battery

▼ **Size matters: ultra-portable notebooks such as the Elonex on top are compact, so their screens are necessarily smaller than desktop replacement models'**



▲ **Two of the notebooks on test offer alternative batteries, but the longer-lasting batteries are heavier than the smaller ones**

the notebook is slightly smaller and lighter, but battery life drops to under two hours. The six-cell battery is 200g heavier but lasts for over four hours.

The MSI is available in two versions; as standard, its eight-cell battery lasts over three hours. A smaller and neater four-cell battery can be substituted free of charge when you buy, but it lasted less than two hours in our tests.

MINIMISED VIEW

All the notebooks here are small enough to fit easily in a bag, so they have no room for the 15" or 17" displays used in larger notebooks. Instead, the ultra-portables tested this month have 12.1" screens. Three have widescreen displays and the other three have normal-shaped screens.

Widescreens are great for watching films, but their limited height is less practical than a normal screen for office work. The MV and MSI also have reflective displays, which produce more vibrant colour and better contrast than standard LCDs. Unfortunately these screens are more prone to reflection, so they're hard to use in bright conditions.

ROOM AT THE TOP

One part of an ultra-portable notebook that isn't affected by its modest dimensions is the hard disk. A 40GB disk takes up the same amount of room as an 80GB one, so you should choose a notebook with enough storage for your needs. The Hi-Grade, MV and HP have a reasonable 60GB of space, while the 80GB in the Elonex and MSI is

enough to store large amounts of music, video and images. The Toshiba has only a 40GB drive, which is smaller than average for the price.

Aside from HP, all the manufacturers squeezed an optical drive into the chassis. All the drives will read CDs and DVDs and can write to CD-R and CD-RW writable discs.

If you want to work with very large files or make regular system backups, a DVD writer is very useful.

The optical drives in the Hi-Grade, MSI and MV notebooks are all capable of burning double-layer discs with 8.5GB of data.

GET CONNECTED

Almost any modern peripheral will connect to your notebook using a USB cable, so it is important to have enough USB2.0 ports for your needs. Most of the notebooks have three ports, but the MV and Hi-Grade have only two, so a USB hub may be needed. All the notebooks bar the HP have a FireWire port, which is useful when connecting to digital video cameras.

Every notebook here can connect to wireless networks. HP, MSI and MV have also included Bluetooth wireless technology, which is useful for connecting to devices such as mobile phones.

MAKING THE UPGRADE

Windows XP needs at least 512MB of system memory to run with ease, and any notebook with less than this is going to struggle with all but the simplest computing tasks. Every notebook here has 512MB of RAM except the MV and Toshiba; MV has included a generous gigabyte, whereas the Toshiba's performance is hampered by its stingy 256MB of standard memory. If you choose the Toshiba we would recommend upgrading. Fortunately it has a free memory slot, so adding another 256MB would be relatively simple and inexpensive.



▲ **Most of the notebooks on test are capable of reading CDs and DVDs and writing CD-Rs and CD-RWs, but three – including the MSI, top – can also burn DVDs**



ELONEX Prowire 121B



RATING ★★★★★

PRICE £939 inc VAT

SUPPLIER Elonex 08707 801010

DETAILS www.elonex.co.uk

As well as being the slimmest notebook in the group, the Elonex is also the lightest when fitted with its smaller three-cell battery. As one of the cheaper notebooks here, it's also excellent value.

FEATURES

The Elonex is very slim when closed, but has room for three USB2.0 ports and an SD, MMC and Memory Stick memory card reader. The keyboard is very comfortable to use as, although the keys wobble slightly, they have the best feedback in the group. The smooth touch pad is a delight to use, and its large metal buttons have a satisfying click.

The Prowire 121B's 1,024x768 pixel non-widescreen display is not the brightest on test, but it has excellent colour across its area with no fading at the bottom of the panel. A large 80GB hard disk is included, but the optical drive cannot write to DVDs.

PERFORMANCE

Like the MV, the Elonex uses a 2GHz Intel Pentium M processor. It achieved the second-highest result in PCMark04 with a score of 3,250 and also came second in our video-encoding and image-editing tests. Its overall *Shopper* benchmark score of 88 was dragged down by the optical drive's slow transfer speeds in the audio-encoding test. This shouldn't be a problem unless you want to rip lots of CDs to MP3.

The Elonex is supplied with both three-cell and six-cell batteries as standard. Battery life with the three-cell is poor at only 105 minutes, but the six-cell runs for over four hours. This larger battery takes the weight from 1.5kg to just 1.7kg, so portability is not compromised.

VERDICT

The Elonex doesn't have as comprehensive a specification as the MV Mobeus notebook, but it is smaller and lighter with nearly the same performance. At £940 it's also very good value, so it wins our Best Buy award.

✓ Very slim and light; powerful

✗ No DVD writer

SPECIFICATIONS 2.0GHz Intel Pentium M 755, 512MB RAM, 60GB hard disk, Intel 855GME integrated graphics, DVD/CD-RW, 12.1" LCD



HI-GRADE Notino C2200

RATING ★★★★★

PRICE £899 inc VAT

SUPPLIER Hi-Grade 020 8532 6111

DETAILS www.higrade.com

Hi-Grade's Notino C2200 is significantly cheaper than the other notebooks here. It's powerful, but has less than three hours of battery life.

FEATURES

The Notino C2200 is chunky for an ultra-portable notebook and, at 1.95kg, it's one of the heavier notebooks in the group. It's good-looking in a rugged kind of way, and feels very well built with no flex at all in the screen or base. The thick base leaves room for two USB2.0 ports and a double-layer DVD writer. There's also a memory card reader, but it supports only outdated CF cards and not the more common SD format.

The C2200 has an excellent keyboard. The keys have substantial travel and well-judged feedback, although they are quite small. The touch pad is accurate and the buttons have a decent click. The 12.1" screen is one of three widescreen displays in the group. It produces sharp text and images, but the colour is patchy and white areas appear grainy.

PERFORMANCE

The Notino uses a 1.8GHz Intel Pentium M processor. Its performance in our benchmarks was decent, and its scores of 92 in the *Shopper* benchmarks and 2,926 in PCMark04 put it in the middle of this group. Despite the chunky battery pack protruding from the rear of the chassis, the Hi-Grade managed only 159 minutes in our minimum-workload battery life test. We consider three hours to be the practical minimum for working away from a desk.

VERDICT

The C2200 has good performance and excellent build quality despite its modest price. Very few features are missing, and it is impressive to include a double-layer optical drive in an ultra-portable notebook at this price. The only disappointment is the substandard battery life, which limits its use on the move.

✓ Excellent build quality; good performance

✗ Mediocre battery life

SPECIFICATIONS 1.8GHz Intel Pentium M 745, 512MB RAM, 60GB hard disk, Intel 855GME integrated graphics, DVD+/-RW DL, 12.1" widescreen LCD



HP Compaq nc4200

RATING ★★★★★

PRICE £1,068 inc VAT

SUPPLIER HP 08452 704215

DETAILS www.hp.com/uk

The Compaq nc4200 is from HP's business notebook range, and feels sturdy enough to take plenty of knocks on the road. Its keyboard is the best in the group, but it has no optical drive.

FEATURES

The HP's metallic grey lid and matt black interior give it a smart, businesslike appearance and the screen and base refuse to flex under strain. The touch pad and touch stick buttons are HP's big rubbery variety, which are soft to the touch and easy to use. The keyboard is also excellent, with no flex and the longest key travel on test.

Its standard non-widescreen LCD isn't the brightest in the group but does have a high level of contrast. Colours look washed out, though, and whites have a grey tinge.

The nc4200 has a fairly thick base with three USB2.0 ports along with an SD-compatible card reader. Considering the fairly large dimensions of the chassis, it seems odd that HP could not find room for an internal optical drive; you will have to buy an external USB drive to read and write CDs and DVDs.

PERFORMANCE

The HP is the only notebook here to use Intel's latest mobile chipset. The combination of this and a 1.86GHz Pentium M processor helped it to a very impressive score of 94 in the *Shopper* benchmarks and 3,159 in PCMark04, putting it in second and third place respectively.

It is one of only two notebooks in the group that could run our 3DMark03 benchmark, but its score of 810 shows that it can't play any recent games. Its battery lasted over four hours, making it a worthy mobile companion.

VERDICT

HP's Compaq nc4200 is a beautifully built notebook with great performance and battery life. The lack of an optical drive will put many off, but if you want a companion for a desktop PC, it's a good choice.

✓ Superb battery life and keyboard

✗ No internal optical drive

SPECIFICATIONS 1.86GHz Intel Pentium M 750, 512MB RAM, 60GB hard disk, integrated Intel 915GM graphics, 12.1" LCD



MSI S270

RATING ★★

PRICE £1,000 inc VAT

SUPPLIER www.morgancomputers.co.ukDETAILS www.msicomputer.co.uk

MSI's S270 is a decent enough multimedia notebook with a high-contrast reflective screen, but its performance and battery life cannot compete with the competition.

FEATURES

The MSI is the widest notebook on test, and at 2kg it just squeezes into the ultra-portable category. It may be fairly heavy but it feels unbreakable, with the stiffest screen and base here. The keyboard is easy to use thanks to its full-size keys and, although it flexes slightly, the key travel and feedback are well judged.

The S270 has a USB2.0 port and memory card reader on the left of its chassis, a FireWire port on the front and two more USB2.0 ports on the right. Its slim base also houses a double-layer DVD writer. The 1,280x800 pixel widescreen LCD has a reflective surface. This produces better contrast, but is more prone to reflections and so is harder to use in bright conditions.

PERFORMANCE

This is the only notebook here not to use an Intel Pentium M processor. Its AMD Turion 64 has a slower clock speed than all the other notebooks here except the Toshiba, and this is reflected in its benchmark scores. Its scores of 71 in the *Shopper* benchmark and 2,773 in PCMark04 beat only those of the Toshiba. The MSI has the best 3D performance on test, scoring 1,023 in 3DMark03, but it is still of little use for gaming.

The standard eight-cell battery lasted 212 minutes, but installing this means the S270 weighs 2.2kg. Buyers can choose a lighter four-cell battery that reduces the weight to 2kg, but this lasts only 105 minutes.

VERDICT

MSI's S270 has a perfect screen for watching films and feels indestructible, but when buying an ultra-portable notebook you shouldn't have to choose between portability and battery life.



Well built; colourful screen



Mediocre performance; poor battery life

SPECIFICATIONS 1.6GHz AMD Turion 64 MT-30, 512MB RAM, 80GB hard disk, ATI Radeon Xpress 200M graphics, DVD+/-RW DL, 12.1" widescreen LCD



MV Mobeus MV010652

RATING ★★★★★

PRICE £1,129 inc VAT

SUPPLIER MV 08718 554668

DETAILS www.go-mv.com

The MV Mobeus is one of the heaviest notebooks here, but it performs well and has the best screen.

FEATURES

Despite its small footprint and slim base, the MV weighs 2.1kg, placing it just outside the ultra-portable category. The silver lid may not appeal to some, but the jet-black inside looks smart and feels very durable. The MV has only two USB2.0 ports, but it includes a removable Bluetooth dongle as well as a memory card reader that supports SD, MMC and Memory Stick cards. A special power-saving button next to the main power button reduces the processor speed to 600MHz. The DVD writer supports double-layer discs, but the slightest nudge to its overzealous eject button makes the disc pop out.

The keyboard is pleasant to use but the touch pad is not as accurate as some. For those who don't need to work in bright environments, the MV's reflective widescreen display is the best in the group. It is very bright with plenty of colour saturation and bright whites, although its vertical viewing angles aren't great.

PERFORMANCE

The MV's 2.0GHz Pentium M processor and 1GB of system memory make it a very powerful notebook. Its score of 99 in the *Shopper* benchmarks is an impressive score for any notebook, let alone an ultra-portable. The Mobeus scored 3,529 in PCMark04, putting it comfortably at the top of the group, but it was unable to run our 3D tests. Its battery lasted for over three hours in our light usage test.

VERDICT

This is a very powerful and well-specified notebook with an excellent keyboard and screen. Although not a true ultra-portable, it is still light enough and has sufficient battery life to use on the move. If you can handle the extra weight, this is the notebook to choose.



Powerful 2D performance; very good screen



Slightly too heavy to be ultra-portable

SPECIFICATIONS 2.0GHz Intel Pentium M 755, 1GB RAM, 60GB hard disk, integrated Intel 855GME graphics, DVD+/-RW DL, 12.1" widescreen LCD



TOSHIBA Portégé M300

RATING ★★★

PRICE £1,184 inc VAT

SUPPLIER Toshiba 08704 448944

DETAILS www.toshiba.co.uk

Toshiba's Portégé M300 is an impressively light notebook with the best battery life here, but it has only 256MB of RAM and a small hard disk.

FEATURES

The M300 has a very small footprint and slim base, but it still has three USB2.0 ports, a FireWire socket and an SD card reader. It is lighter than every other notebook bar the Elonex. The keyboard feels as if it will last forever, but typing can be tiring as the keys don't travel far enough for comfort. The tiny touch pad feels inaccurate, and the buttons are rather too small.

The Toshiba's screen has good contrast and clear text, but colours are not very saturated and large blocks of white appear grainy. The Portégé also sacrifices some useful features for portability and price. The optical drive is a DVD/CD-RW combo rather than a DVD writer, and the 40GB hard drive is the smallest in the group. The lack of a DVD writer is annoying as the Portégé doesn't come with a restore CD; you have to make your own from several CD-Rs.

PERFORMANCE

To save battery life, Toshiba has fitted the M300 with an ultra-low-voltage Pentium M processor. At 1.2GHz it's far slower than the other processors in the group, but its low power drain contributes to the Portégé's astounding five-and-a-half hours of battery life. Unfortunately, the combination of the slower processor and a meagre 256MB of RAM seriously hampered the Toshiba's performance in our benchmarks. It was at the bottom of the table in every test, scoring just 49 in the *Shopper* application benchmarks and 2,226 in PCMark04.

VERDICT

For those whose priority is mobility, the Toshiba's amazing battery life and light weight make it the only choice. Otherwise, its stingy memory, limited optical drive and slow processor make it feel too compromised for a £1,200 notebook.



Astounding battery life



Minimal features as standard

SPECIFICATIONS 1.2GHz Intel Pentium M 753 ULV, 256MB RAM, 40GB RAM, integrated Intel 855GME graphics, DVD/CD-RW, 12.1" LCD



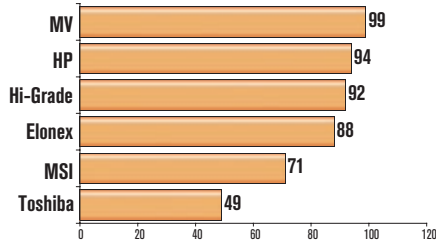
MANUFACTURER	ELONEX	HI-GRADE	HP	MSI	MV	TOSHIBA
Model	Prowire 121B	Notino C2200	Compaq nc4200	S270	Mobeus MV010652	Portégé M300
Rating	★★★★★	★★★	★★★★	★★	★★★★★	★★★
Processor	Intel Pentium M 755	Intel Pentium M 745	Intel Pentium M 750	AMD Turion 64 MT-30	Intel Pentium M 755	Intel Pentium M 753 ULV
Speed	2.0GHz	1.8GHz	1.86GHz	1.6GHz	2.0GHz	1.2GHz
Memory installed	512MB	512MB	512MB	512MB	1GB	256MB
Memory slots (free)	2 (0)	2 (0)	2 (1)	2 (0)	2 (0)	2 (1)
Max memory	768MB	2GB	2GB	2GB	1GB	1.28GB
BIOS	AMI	Phoenix	HP	AMI	AMI	Toshiba
Dimensions (HxWxD)	29x274x232mm	32x297x216mm	30x284x234mm	30x301x224mm	33x292x229mm	32x283x239mm
Weight	1.55kg (3-cell); 1.7kg (6-cell)	1.95kg	1.8kg	2.2kg (8-cell); 2kg (4-cell)	2.1kg	1.7kg
Sound	SoundMAX integrated	Crystal WDM AC'97	SoundMAX integrated	Realtek AC'97	Vinyl AC'97	SigmaTel C-Major Audio
Pointing device	Touch pad	Touch pad	Touch pad and touch stick	Touch pad	Touch pad	Touch pad
DISPLAY						
Screen size	12.1"	12.1"	12.1"	12.1"	12.1"	12.1"
Graphics adaptor	Intel 855GME integrated graphics	Intel 855GME integrated graphics	Intel 915GM integrated graphics	ATI Radeon Xpress 200M integrated graphics	Intel 855GME integrated graphics	Intel 855GME integrated graphics
Graphics outputs	D-sub	D-sub, S-video	D-sub, S-video	D-sub	D-sub, S-video	D-sub
Graphics memory	64MB shared	64MB shared	128MB shared	16MB shared	64MB shared	64MB shared
Native resolution	1,024x768	1,280x800	1,024x768	1,280x800	1,280x800	1,024x768
STORAGE						
Hard disk (available)	80GB (74.5GB)	60GB (53.9GB)	60GB (55.8GB)	80GB (74.5GB)	60GB (55.8GB)	40GB (34.8GB)
Optical drive	CD-RW/DVD combo drive	Internal DVD writer	None	Internal DVD writer	Internal DVD writer	CD-RW/DVD combo drive
Optical drive speeds	24X CD-R, 16X CD-RW, 8X DVD-RW, 24X CD-ROM	8X DVD+R, 4X DVD-R, 4X DVD+RW, 2X DVD-RW, 2.4X DVD+R DL, 24X CD-R, 10X CD-RW, 8X DVD-ROM, 24X CD-ROM	N/A	8X DVD+R, 4X DVD-R, 4X DVD+RW, 2X DVD-RW, 2.4X DVD+R DL, 24X CD-R, 24X CD-RW, 8X DVD-ROM, 24X CD-ROM	8X DVD+R, 8X DVD-R, 4X DVD+RW, 4X DVD-RW, 2.4X DVD+R DL, 24X CD-R, 16X CD-RW, 8X DVD-ROM, 24X CD-ROM	24X CD-R, 24X CD-RW, 8X DVD-ROM, 24X CD-ROM
Floppy disk	£18 inc VAT	No	£54 inc VAT	No	£35 inc VAT	No
PORTS & EXPANSION						
USB2.0 ports	3	2	3	3	2	3
FireWire	1	1	No	1	1	1
Infrared port	No	No	Yes	No	No	Yes
Bluetooth	No	No	Yes	Yes	Yes	No
Networking	10/100 wired, 802.11b/g	10/100 wired, 802.11b/g	10/100/1,000 wired, 802.11b/g	10/100 wired, 802.11b/g	10/100 wired, 802.11b/g	10/100 wired, 802.11b/g
PC Card slots	1	1	1	1	1	1
Modem	Yes	Yes	Yes	Yes	Yes	Yes
Legacy ports	None	None	None	None	None	None
Other ports	Memory card reader (supports MS, SD, MMC)	Memory card reader (supports CF)	Memory card reader (supports SD)	Memory card reader (supports MS, SD, MMC)	Memory card reader (supports MS, SD, MMC, MS PRO)	Memory card reader (supports SD)
EXTRAS						
Carrying case	Yes	Yes	£28 inc VAT	No	Yes	£18 inc VAT
Direct CD control	No	No	No	No	No	No
Operating system	Windows XP Home	Windows XP Home	Windows XP Professional	Windows XP Professional	Windows XP Home	Windows XP Professional
Operating system restore option	Windows CD	Restore partition	Windows CD	Restore CD	Windows CD	None
Software included	Microsoft Works Suite 2005, InterVideo WinDVD 4	Bullguard Antivirus 5.0, Ability Office 4, Sonic RecordNow 6, Sonic CinePlayer 1.51	Sonic RecordNow 7, Symantec Norton AntiVirus 2005, InterVideo WinDVD 7	CyberLink PowerDVD 5, Norton AntiVirus 2005	Microsoft Works 8, Panda Titanium Antivirus 2005, Roxio Creator Classic 7, Sonic Cineplayer 3.45	Microsoft Office OneNote 2003, Sonic RecordNow 7 Basic
Other standard accessories	3-cell battery	None	None	None	None	None
Optional extras	None	Extra battery £112 inc VAT	Docking station with AC Adaptor £88 inc VAT, travel battery £121 inc VAT	4-cell battery can be substituted for free at purchase, extra 4-cell battery £50 inc VAT, extra 8-cell battery £70 inc VAT	Extra battery £99 inc VAT	Extra battery £69 inc VAT
BUYING INFORMATION						
Company founded	1986	1986	1939	1986	2004	1985
Employees	Not disclosed	85	6,000	15,000	50	100 (UK)
Technical support staff	Not disclosed	10	Not disclosed	4	6	50
Technical support times	Mon-Fri 9am-5.30pm, Sat 10am-2pm	Mon-Fri 9am-5.30pm	Mon-Fri 8am-9pm	Mon-Fri 9am-5pm	Mon-Fri 9am-5pm, Sat 10am-2pm	Mon-Fri 8am-6pm
Parts warranty	Three years RTB	Two years collect and return	Three years collect and return	Two years collect and return	One year collect and return	Three years collect and return
Labour warranty	Three years RTB	Two years collect and return	Three years collect and return	Two years collect and return	One year collect and return, two years RTB	Three years collect and return
Price inc VAT and delivery	£939	£899	£1,068	£1,000	£1,129	£1,184
Price ex VAT and delivery	£799	£765	£879	£851	£961	£999
Manufacturer	www.elonex.co.uk	www.higrade.com	www.hp.com/uk	www.msicomputer.co.uk	www.go-mv.com	www.toshiba.co.uk
Supplier	Elonex	Hi-Grade	HP	Morgan Computers	MV	Toshiba
Telephone	08707 801010	020 8532 6111	08452 704215	0121 456 5565	08718 554668	08704 448944
Web address	www.elonex.co.uk	www.higrade.com	www.hp.com/uk	www.morgancomputers.co.uk	www.go-mv.com	www.toshiba.co.uk



BENCHMARKS

2D Performance Shopper application tests

Overall



SETTINGS We run our application tests at 1,024x768 resolution and in 32-bit colour
WEB www.computershopper.co.uk

Video-Encoding Test

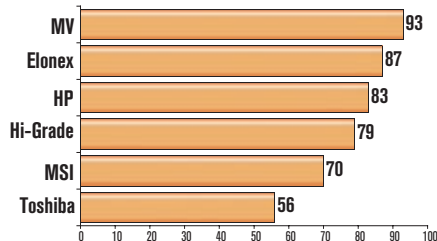
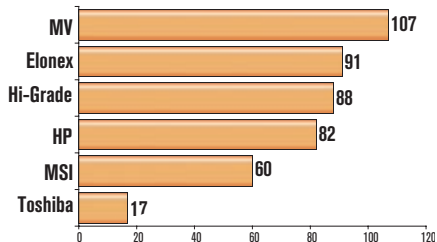


Image-Editing Test



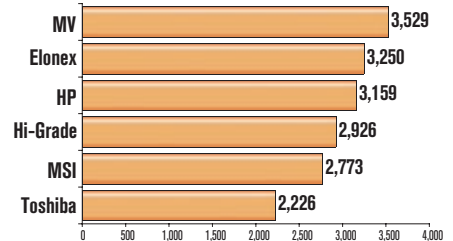
Computer Shopper's 2D benchmarks are designed to show how PCs stand up to the toughest tasks Windows can throw at them. Today's PCs have no problem running office applications such as Word and Excel, so we have chosen to focus our tests on areas where you could experience difficulties.

In version 1.0 there are three scripts. Encoding a short video to MPEG 2 format is an extremely processor-intensive task, and one that anyone interested in transferring home videos to DVD will have to tackle. Our image-editing test simulates a session of photo enhancement using Paint Shop Pro, culminating with the memory-intensive composition of a panorama from a set of digital snaps. Finally, a set of MP3s is generated by ripping an audio CD.

We compiled all the tests with the help of our sister magazine for performance computing, *Custom PC*. By tackling advanced tasks the tests will give you warning of any speed issues you could encounter. Figures are relative to a reference Evesham Athlon 64 3500+ system, which scores 100 in all tests.

PCMark04

PCMark04



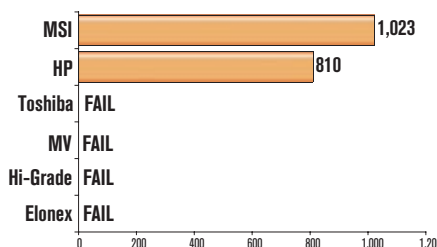
SETTINGS We run PCMark04 at 1,024x768 resolution and in 32-bit colour
WEB www.futuremark.com

As well as our own benchmarks, we test all desktop and notebook PCs using Futuremark's PCMark04. You can download a free version of PCMark04 from www.futuremark.com/download, so you can compare our results with those from your own computer, which is useful if you want to see how much performance you might gain by upgrading.

PCMark04 performs a variety of tests to measure system performance. These include testing the hard disk, memory, processor and graphics. All the tests mimic the stresses placed on your computer by actual applications, giving a fair indicator of how powerful a PC is.

3D Performance 3DMark03

3DMark03

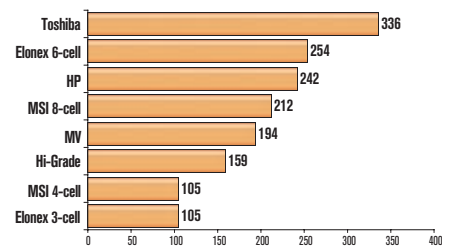


SETTINGS 1,024x768 resolution, 32-bit colour, default settings
WEB www.futuremark.com

3DMark03 comprises four game tests from four different genres. Each test involves real-time rendering of a 3D environment. 3DMark03 gives you a good idea of how well a PC will run games that are currently on the market. You can download a free, limited version of 3DMark03 from the Futuremark website.

Portability

MobileMark2002 battery life (minutes)



LABS VERDICT ULTRA-PORTABLE NOTEBOOKS

All the notebooks in this test feel solid and durable enough to withstand plenty of knocks when on the road, but some are too compromised to be worthy travelling companions. The MSI S270 has a decent optical drive and screen, but neither of its two batteries provide an acceptable balance between weight and battery life. The HP is powerful and beautifully designed, but most users will find the lack of an optical drive frustrating. The Toshiba's battery seems to last forever, but it has the bare

minimum of standard features and needs more memory to perform acceptably.

Both MV's Mobeus and Elonex's Prowire stand out. The MV is packed with features and is remarkably powerful, but it's slightly too heavy to be classed as an ultra-portable. The Elonex is tiny and light even when using its larger battery, and its combination of power and portability is very impressive for under £1,000. It wins our Best Buy award. **CS**

ELONEX Prowire 121B

